

REMARKS

Claims 1-20 remain pending in this application.

Claims 1-20 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Chang et al. (U.S. Patent Application Publication No. 2003/0172147; hereinafter Chang). The rejection is respectfully traversed.

Claim 1 recites a network device connected to a host, comprising an address table configured to store a plurality of entries; an address register accessible by the host and configured to store an address of one of the entries in the address table; an address table access port accessible by the host and configured to store contents of one of the entries in the address table; and table access logic configured to receive a command from the host to read one of the entries in the address table, locate the one entry in the address table in response to the command, store an address of the one entry in the address register for access by the host, and store contents of the one entry in the address table access port for access by the host.

As to claim 1, the Office Action states that Chang discloses the claimed address table and points to look-up table (LUT) 50 and paragraph 35 of Chang for support (Office Action – page 2). The Office Action also states that Chang discloses the claimed address register and points to paragraph 80 of Chang for support (Office Action – page 2). The applicant respectfully disagrees.

Chang at paragraph 35 discloses that processing engine subsystem 16 includes LUT 50 (Chang – Fig. 2). Chang at paragraph 77-79 discloses that an application programming interface (API) allows host 70 to issue a command to reset network processor (NP) 10 or subsystems of NP 10. This portion of Chang further discloses that

the API may be implemented as a function, such as status Reset_Req(ResetType). Chang at paragraph 80 discloses that a ResetType parameter indicates the reset type, such as whether all resets should be cleared, whether the receiver module 62 in processing engine subsystem 16 should be cleared, whether the transmitter module 64 should be cleared, whether both the receiver 62 and transmitter 64 modules should be cleared or whether all subsystems in NP 10 should be cleared. Generally, all registers are reset, except the PCI configuration registers.

These portions of Chang merely disclose that various registers in Chang may be reset by host 70 by issuing a command via an API. These portions of Chang do not disclose that any of the registers in Chang are equivalent to an address register that is configured to store an address of one of the entries in LUT 50, as required by claim 1 based on the alleged equivalence of LUT 50 and the claimed address table.

Claim 1 further recites an address table access port accessible by the host and configured to store contents of one of the entries in the address table.

The Office Action states that Change discloses the claimed address table access port and points to paragraph 280 for support (Office Action – page 2). Chang at paragraph 280 discloses that various APIs provide for Layer 2 bridging functionality. This portion of Chang further discloses that each LAN emulation client (LEC) represents a logical port to the host system and can be placed in disabled, listening, learning and forwarding states per the IEEE 802.1d spanning tree protocol standard. This portion of Chang also discloses that NP 10 may implement a hardware-based bridge table that allows source address learning and filtering as well as destination address resolution.

This portion of Chang does not disclose an address table access port that is configured to store contents of one of the entries in LUT 50, as required by claim 1 (based on the alleged equivalence of LUT 50 and the claimed address table). In contrast, this portion of Chang merely discloses that an emulation client (i.e., LEC) represents a port to host system 70 and NP 10 may implement a bridge table.

Claim 1 also recites table access logic configured to receive a command from the host to read one of the entries in the address table, locate the one entry in the address table in response to the command, store an address of the one entry in the address register for access by the host, and store contents of the one entry in the address table access port for access by the host.

The Office Action states that Chang discloses this feature and points to paragraph 282 and 254 for support (Office Action – page 3). Chang at paragraph 282 discloses that an API allows host 70 to issue a command to update the NP 10 forwarding table and that host 70 can use the API to add a static entry in the forwarding table. Paragraph 254 of Chang discloses that “config” stores the location of the data structure containing the LEC parameters.

Initially, the applicant notes that neither of these portions of Chang discloses table access logic configured to receive a command from the host to read one of the entries in LUT 50, as required by claim 1 based on the alleged equivalence of LUT 50 and the claimed address table.

Secondly, even if the forwarding table or bridge table of Chang was construed as being equivalent to the claimed address table, Chang does not disclose access table logic that is configured to receive a command from the host to read one of the entries in the

forwarding table, much less disclose table access logic that is configured to locate the one entry in the address table in response to the command, store an address of the one entry in the address register for access by the host, and store contents of the one entry in the address table access port for access by the host.

In contrast, Chang merely discloses that host 70 can issue a command via an API to update a forwarding table or add a static entry to a forwarding table. Chang, however, does not disclose or suggest table access logic that stores an address of the one entry in an address register for access by the host and stores contents of the one entry in an address table access port, as required by claim 1.

In summary, the portions of Chang referenced in the Office Action, or any other portions of Chang, do not disclose or suggest the claimed address register, address table access port and table access logic recited in claim 1.

For at least the reasons discussed above, Chang does not disclose or suggest each of the features of claim 1. Accordingly, withdrawal of the rejection and allowance of claim 1 are respectfully requested.

Claims 2-11 depend from claim 1 and are believed to be allowable for at least the reasons claim 1 is allowable. In addition, these claims recite additional features neither disclosed nor suggested by Chang.

For example, claims 2-4 recite further features associated with the table access logic. Since Chang does not disclose the claimed table access logic recited in claim 1, Chang cannot be construed to disclose or suggest further features associated with the claimed table access logic recited in any of claims 2-4.

For at least these additional reasons, withdrawal of the rejection and allowance of claims 2-4 are respectfully requested.

Claim 5 recites that the entries include bin entries and heap entries, where at least one of the bin entries includes a pointer to one of the heap entries, at least one of the heap entries including a pointer to another one of the heap entries. The Office Action states that Chang discloses this feature and points to paragraph 247 of Chang for support (Office Action – page 4). The applicant respectfully disagrees.

Chang at paragraph 247 discloses that the “config” parameter is a pointer to a data structure containing LEC configuration parameters. This portion of Chang also discloses that if “config” is NULL, no LEC will be created, but a callback response may contain the configuration of the requested LEC.

This portion of Chang clearly has nothing to do with entries in an address table, much less that the entries include bin entries and heap entries, where at least one of the bin entries includes a pointer to one of the heap entries and at least one of the heap entries includes a pointer to another one of the heap entries, as recited in claim 5.

For at least these additional reasons, withdrawal of the rejection and allowance of claim 5 are respectfully requested.

Claim 6 recites that the network device includes an input data holding register configured to store data corresponding to a new entry to be created in the address table or an existing one of the entries to be modified or deleted from the address table. The Office Action states that Chang discloses this feature and points to paragraph 64 for support (Office Action – page 5). The applicant respectfully disagrees.

Chang at paragraph 64 refers to Fig. 6 which illustrates a memory structure 110 that includes a command type (opcode) section 112 and a command arguments section 114 for encapsulating a message that may be written to the memory buffers in NP 10. Command type section 112 stores the opcode for a command and command argument section 114 stores the argument of a corresponding command. This portion of Chang does not disclose that memory structure 110 is an input data holding register that is configured to store data corresponding to a new entry to be created in the address table or an existing one of the entries to be modified or deleted from the address table, as required by claim 6. In contrast, this portion of Chang merely discloses a structure for encapsulating a command which is then written to a buffer in NP 10.

For at least these additional reasons, withdrawal of the rejection and allowance of claim 6 are respectfully requested.

Independent claim 12 recites a network device connected to a host. The network device includes an address table configured to store a plurality of entries; an input data holding register configured to store data corresponding to a new entry to be created in the address table or an existing one of the entries to be modified or deleted from the address table; and table access logic configured to receive at least one of a modify table entry command and a delete table entry command from the host, apply a hashing function to the data in the input data holding register, search the address table to locate one of the entries to modify or delete using the hashed data, overwrite the located entry with the data from the input data holding register when the command is the modify table entry command, and delete the located entry from the address table when the command is the delete table entry command.

The Office Action states that Chang discloses the claimed address table and input data holding register and points to LUT 50 and paragraphs 35, 253 and 264 for support (Office Action – page 6). The applicant respectfully disagrees.

Chang at paragraphs 252-254 discloses that a callback may be invoked as a result of a host call to CreateLEC_Rsp() and that the callback may be implemented as a function. This portion of Chang further discloses that “config” stores the location of a data structure containing the LEC parameters and that the nonvolatile parameter is a Boolean that when set to TRUE, indicates that the configuration is read from or stored in non-volatile memory. If the Boolean is FALSE, this indicates that the configuration is not stored or read from non-volatile memory. These portions of Chang do not disclose or suggest any input data holding register that is configured to store data corresponding to a new entry to be created in LUT 50 or an existing one of the entries to be modified or deleted from LUT 50 (as required based on the alleged equivalence of LUT 50 and the claimed address table).

Chang at paragraph 264 discloses that an API allows host 70 to issue a command to NP 10 to delete a previously created LEC and that a call to this API releases all of the resources associated with the LEC including all of its virtual circuits. This portion of Chang also does not disclose or suggest an input data holding register that is configured to store data corresponding to a new entry to be created in LUT 50 or an existing one of the entries to be modified or deleted from LUT 50. In fact, these portions of Chang are not at related to LUT 50 and clearly do not disclose or suggest that Chang includes the claimed input data holding register.

The Office Action also states that Chang discloses the claimed table access logic and points to paragraphs 55 and 57 for support (Office Action – page 7). The applicant respectfully disagrees.

Chang at paragraph 55 discloses that responses to commands from device control module (DCM) 74 may be forwarded to encode-decode module 88, which encapsulate the responses into memory structures for writing to buffers 84 or 86. These responses may then be read by encode-decode module 82 on host 70 and forwarded to host application 72 via upper level command module (UCLM) 78 (See Chang – Fig. 3B).

Chang at paragraph 57 refers to Fig. 3C and discloses that host application 72 writes the memory structures encapsulating the commands directly into memory buffer 84 or 86. This portion of Chang further discloses that the function of encoding and decoding the command/response memory structures is performed by host application 72 and that such a configuration is useful for integrating NP 10 with proprietary switches.

Neither of these portions of Chang, or any other portions, discloses or suggests table access logic that is configured to receive at least one of a modify table entry command and a delete table entry command from the host, apply a hashing function to the data in the input data holding register, search the address table to locate one of the entries to modify or delete using the hashed data, overwrite the located entry with the data from the input data holding register when the command is the modify table entry command, and delete the located entry from the address table when the command is the delete table entry command, as recited in claim 12.

In contrast, these portions of Chang are not at all related to modifying or deleting entries in LUT 50 (or any other address table), which was alleged to be equivalent to the

claimed address table. Further, these portions of Chang do not disclose applying a hashing function to data in an input data holding register, searching LUT 50 (or any other address table) to locate one of the entries to modify or delete using the hashed data, overwriting the located entry with data from the input data holding register when the command is a modify table entry command and deleting the located entry from LUT 50 (or any other address table) when the command is the delete table entry command, as required by claim 12. In the event that the Examiner maintains this rejection, the applicant respectfully requests that the Examiner particular point out where these features are disclosed in Chang.

In summary, the portions of Chang referenced in the Office Action, or any other portions, do not disclose or suggest the claimed address input data holding register and table access logic recited in claim 12.

For at least the reasons discussed above, Chang does not disclose or suggest each of the features of claim 12. Accordingly, withdrawal of the rejection and allowance of claim 12 are respectfully requested.

Claims 13-18 depend from claim 12 and are believed to be allowable for at least the reasons claim 12 is allowable. In addition, these claims recite additional features neither disclosed nor suggested by Chang.

For example, claims 13 and 14 recite further features associated with the table access logic. Since Chang does not disclose the claimed table access logic recited in claim 12, Chang cannot be construed to disclose or suggest further features associated with the claimed table access logic recited in either of claims 13 and 14.

For at least these additional reasons, withdrawal of the rejection and allowance of claims 13 and 14 are respectfully requested.

Claim 15 recites an address register and an address table access port. Similar to the discussion above with respect to claim 1, Chang does not disclose or suggest these features.

For at least these additional reasons, withdrawal of the rejection and allowance of claim 15 are respectfully requested.

Claim 19 recites features similar to claims 1 and 12 discussed above. For reasons similar to those discussed above with respect to claims 1 and 12, Chang does not disclose the claimed address register, address table access port, input data holding register and table access logic recited in claim 19.

For at least these reasons, Chang does not disclose or suggest each of the features of claim 19. Accordingly, withdrawal of the rejection and allowance of claim 19 are respectfully requested.

Claim 20 depends from claim 19 and is believed to be allowable for at least the reasons claim 19 is allowable. Accordingly, withdrawal of the rejection and allowance of claim 20 are respectfully requested.

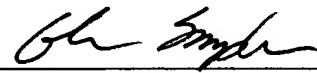
CONCLUSION

In view of the foregoing remarks, the applicant respectfully request withdrawal of the outstanding rejection and the timely allowance of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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